

TITLE 410 INDIANA STATE DEPARTMENT OF HEALTH

LSA Document #12-157

SUMMARY OF CHANGES BETWEEN PROPOSED RULE AND FINAL RULE

1. Changed “on-Site” to “onsite” in title, digest description, and throughout the rule.
 - a. “On-site” was intentionally left as-is in the following sections: 8; 47; 48; 51; 53; 62; 63; 64; 69; 70; 78; 79; 80.
2. Paginated the document
3. **Section 8:** replaced “wastewater” with “sewage”
4. **Section 20:** reorganized the wording of the definition for clarity so it now reads:

"High strength waste" means either of the following as defined by National Sanitation Foundation International (NSF) Standard 40 testing protocol:

(1) Influent to a septic tank or other pretreatment component having any or all of the following:

(A) A five (5) day biochemical demand (BOD5) greater than three hundred (300) mg/L.

(B) Total suspended solids (TSS) greater than two hundred (200) mg/L.

(C) Fats, oils, and grease (FOGs) greater than fifty (50) mg/L.

(2) Effluent from a septic tank or other pretreatment component discharged to a soil absorption field having any or all of the following:

(A) A BOD5 greater than one hundred seventy (170) mg/L.

(B) TSS greater than sixty (60) mg/L.

(C) FOGs greater than twenty-five (25) mg/L.”

5. **Section 32:** removed “Base Flood Elevation” and “BFE” as part of the definition. Also removed the statement, “The RFE is equivalent to the BFE and the one hundred (100) year frequency flood.” Added statement, “The regulatory flood elevation is also referred to as the base flood elevation.”
6. **Section 41(4):** changed “consistency” to “consistence”
7. **Section 43**
 - a. Deleted “a” from first sentence
 - b. **Section 43(1):** added “a” before “depth”
 - c. **Section 43(2):** added “a” before “layer”

8. **Section 48(b)(2):** added “Local health departments may review plans and issue permits based on delegation when” and changed “designates” to “has designated” so it now reads, “Local health departments may review plans and issue permits based on delegation when the department: (1) has designated which on-site sewage system technologies are delegated to the local health department for plan review, approval, and permit issuance; and (2) has provided design criteria to the local health department for each individual commercial onsite sewage system project.”

9. **Section 49(e)(1):** replaced “wastewater” with “sewage”

10. **Section 50**

a. **Section 50(a):** deleted “(b) or” and added “or section 48(b) of this rule” to correct cross references.

b. Added a new subsection (b), which reads “(b) Nothing in this rule shall be construed as preventing requirements in local ordinance for the issuance of a commercial onsite sewage system, provided that the permit required by local ordinance is: (A) issued only after permit issuance by the department (except as permitted in section 48(b) or subsection (c) of this rule); and (B) is not in conflict with the permit issued by the department.” Renumbered the former (b) to (c).

i. Based on public hearing comment that without this wording, the local health departments would not be able to issue commercial onsite permits.

11. **Section 51(a)(8) and (a)(9):** replaced “wastewater” with “sewage”

12. **Section 52(2):** replaced “wastewater” with “sewage”

13. **Section 53(a)(5):** replaced “wastewater” with “sewage”

14. **Section 54:** Added a new subsection (f) which reads: “Nothing in this rule shall be construed as preventing requirements in local ordinance for the issuance of an operating permit for a commercial onsite sewage system, provided that the permit required by local ordinance is not in conflict with an operating permit issued by the department.”

a. Based on public hearing comment that without this wording, the local health departments would not be able to issue operating permits for commercial onsite sewage systems.

15. **Section 60(a), Table I**

a. Added “s” to “Dentist Office”

b. Changed “firemen” and “fireman” to “firefighters” and “firefighter,” respectively

16. Section 61

a. Section 61(a), Table II:

- i. Added “lake” to the line which read “Public water supply well or reservoir¹”; added footnote number to the same line for reference to footnote number 3.
 1. Based on public hearing comment that a lake can be a public water supply reservoir, but it is not clear in the rule. The reference to footnote number 3 was added for clarity that this footnote is applicable.
- ii. Added “closed loop geothermal systems” to the line which read “Buildings, foundations, slabs, garages, patios, barns, aboveground and belowground swimming pools, retaining walls, roads, driveways, parking areas, or paved sidewalks” so it now reads, “Buildings, foundations, slabs, garages, patios, barns, aboveground and belowground swimming pools, retaining walls, closed loop geothermal systems, roads, driveways, parking areas, or paved sidewalks”
 1. Reason: Public hearing comment that closed loop geothermal systems should be added as one of the items listed.
- iii. Footnote 3: Added the words “the” and “or ordinary” to the footnote
 1. The words “or ordinary” was added based on a public hearing comment that this reference is sometimes used instead of “normal” when describing the high water mark.

b. Section 61(d): added “and shall have the following requirements”

17. Section 62

- a. **Section 62(a)(2):** Moved the existing clause (D) to clause (E) and added a new item “soil with fragic properties; or” as clause (D); added to the renumbered clause (E) the wording “unless: (i) the on-site soils evaluation report shows that the presence of the horizon is not detrimental to the proper functioning of an onsite sewage system; and (ii) the determination in item (i) is made using the guidelines as set forth in the soil manuals, technical bulletins, and handbooks of the NRCS guidelines and as approved by the department.”
 - i. Additional wording for clause (E) based on public hearing comments; clauses rearranged for ease of reading and understanding by the user.

b. **Section 62(c)**

- i. Added “For sites that meet the conditions of subsection (a), the dispersal area shall be as indicated in Table III, as follows:”
- ii. **Table III:** Added “Ten” and parentheses around the number “10” for minimum dispersal areas for soil absorption systems, “One-fourth” and parentheses around the number “1/4”, and “One-half” and parentheses around the number “1/2”

c. **Section 62(e)(2):**

- i. Reorganized the wording.
- ii. A new clause (M) added which reads “closed loop geothermal systems” to the list of what shall not impede the flow of water in a dispersal area; renumbered “other structures” from (M) to (N) to reflect the addition
 1. Based on public hearing comment that closed loop geothermal systems should be added as one of the items listed.

18. **Section 63**

- a. **Section 63(d):** The word “the” was deleted, and the phrase “massive clay” was changed to “structureless massive compact clay with firm or very firm consistency”
 - i. The terminology for the clay was changed based on the public hearing comment that this would be more accurate and therefore preferable terminology.
- b. **Section 63(i)(2):** added “with” before “aggregate”

19. **Section 67(f):** changed “should” to “shall”

- a. To ensure that the phrase is in its proper verb tense. This also allows consistency in the subdivision since the sentence before it says “shall.”

20. **Section 68**

- a. **Section 68(d):** changed “ 49(f)” to “49(h)” to reference the correct subsection
- b. **Section 68(e)(5):** added specific references to subsections after “access opening” and “riser” to be more specific than in the proposed rule, which just referenced the entire section of the rule.

- c. **Section 68(g):** replaced “wastewater” with “sewage”
- d. **Section 68(h)**
 - i. **Section 68(h)(1)**
 - 1. Added “20” to the NSF/ANSI standard so it now reads “NSF/ANSI Standard 40-2010” rather than “NSF/ANSI Standard 40-10”
 - a. Referencing by year in four-digit format is the correct way to reference the standard.
 - 2. Added “third party product” and “acceptable to the department”
 - a. Added for clarity to resolve questions about what type of testing lab facility is intended in this subdivision.
 - ii. **Section 68(h)(5):** changed “49(f)” to “49(h)” to reference the correct subsection

21. **Section 72**

- a. **Section 72(e)**
 - i. **Section 72(e)(1):** Added “20” to the NSF/ANSI standard so it now reads “NSF/ANSI Standard 46-2010a” rather than “NSF/ANSI Standard 46-10a”
 - ii. **Section 72(e)(2):** “one-sixteenth” changed to “one-eighth” in subdivision (2) so it now reads, “(e) Outlet filters shall: (2) prevent the passage of solids larger than one-eighth (1/8) of an inch”; subdivision (3) was deleted. Subsequent subdivisions renumbered.
 - 1. Based on public hearing comments that these changes would be an improvement to the proposed rule.
 - iii. **Section 72(e)(4) and (5):** replaced “wastewater” with “sewage”
- b. **Section 72(g):** This subsection was deleted; subsequent subsections renumbered.
 - i. With the deletion of section 72(e)(3), this subsection no longer had any bearing on the requirements in the rule.
- c. **Section 72(h):** “Outlet filter and their cartridges” changed to “An outlet filter with cartridge”

- i. Based on public hearing comment that the change provides clearer language as to the meaning of the sentence.

d. **Section 72(j):** Added as follows”

22. **Section 73(c):** Added “as follows”

23. **Section 74(f):** Added “as follows”

24. **Section 75**

a. **Section 75(a)**

- i. **Section 75(a)(1)(A)(i):** changed the ASTM standard from ASTM D 2665-11 to D 2665-12

- 1. The number at the end represents the year of adoption. ASTM updated this standard after the first draft of the rule was prepared. The manufacturers comply with the latest version of the standard.

- ii. **Section 75(a)(1)(B)(ii); Section 75(a)(2)(B)(i) and (ii):** Added “Reapproved” to ASTM Standard references D 2680-01, D 1527-99 and D 2282-99, respectively

- iii. **Section 75(a)(1)(C):** Added space between “F” and “480-12” of the ASTM standard so it now reads “F 480-12” rather than “F480-12”

b. **Section 75(c):** Added “s” to “lateral”

c. **Section 75(e)(3):** Added “September 2003” to NRCS Standard reference 606

- i. Added the month and year of adoption of this standard to meet rule writing requirements and distinguish this version from previous versions.

25. **Section 76(a):** added “Section 904, Aggregates” to INDOT Standard Specifications

- a. The applicable reference is found only in Section 904 of that document; additional specificity makes it easier for users to locate exactly where they should look.

26. **Section 77**

a. Removed the hyphens between the letter and the number in the ASTM Standards.

b. **Section 77(a)(4), (a)(5) and (a)(7):** Added “Reapproved 2009” to ASTM Standard references to D 6241-04 and D 4491-99a

27. **Section 78**

a. **Section 78(b)**

- i. **Section 78(b)(6):** Added “unless: (A) the on-site soils evaluation report shows that the presence of the horizon is not detrimental to the proper functioning of an onsite sewage system; and (B) the determination in clause (A) is made using the guidelines as set forth in the soil manuals, technical bulletins, and handbooks of the NRCS guidelines and as approved by the department.

1. Based on public hearing comment that this provides a preferable approach to this issue. Same as with **79(b)(3)(B)**, **79(c)(3)(B)**, **79(d)(2)(B)** and **80(b)(5)**.

- ii. **Section 78(b)(7)(A):** Changed “twenty-seven percent” to “twenty percent” so it now reads, “less than twenty percent (20%) clay by volume and greater than thirty-five percent (35%) coarse fragments by volume”

1. Based on public hearing comment that this changes it to an NRCS soil classification break in percentage. Same as with **79(b)(3)(C)**, **79(c)(3)(C)**, **79(d)(2)(C)** and **80(b)(6)(A)**.

- iii. **Section 78(b)(7)(B):** Changed “twenty-seven percent” to “twenty percent” and “fifty percent” to “sixty percent” so it now reads, “greater than or equal to twenty percent (20%) clay by volume and greater than sixty percent (60%) coarse fragments by volume”

1. Based on public hearing comment that the 20% and 60% are NRCS soil classification breaks in percentages. Same as with **79(b)(3)(D)**, **79(c)(3)(D)**, **79(d)(2)(D)** and **80(b)(6)(B)**.

iv. **Section 78(b)(8), Table V**

1. Changed the listing of “prismatic” in the column headings in this table.

- a. Based on public hearing comment that this is the preferable listing of prismatic.

2. Deleted “coarse or” from the heading of column 7

- a. Technical correction on soils descriptions.

- b. **Section 78(c)(5):** Added “, unless the compaction is broken up by a method approved by the department”

- i. Based on public hearing comment requesting this wording.

28. Section 79

a. Section 79(b)

- i. **Section 79(b)(3)(B):** Added “unless: (i) the on-site soils evaluation report shows that the presence of the horizon is not detrimental to the proper functioning of an onsite sewage system; and (ii) the determination in item (i) is made using the guidelines as set forth in the soil manuals, technical bulletins, and handbooks of the NRCS guidelines and as approved by the department.
- ii. **Section 79(b)(3)(C):** Changed “twenty-seven percent” to “twenty percent” so it now reads, “less than twenty percent (20%) clay by volume and greater than thirty-five percent (35%) coarse fragments by volume”
- iii. **Section 79(b)(3)(D):** Changed “twenty-seven percent” to “twenty percent” and “fifty percent” to “sixty percent” so it now reads, “greater than or equal to twenty percent (20%) clay by volume and greater than sixty percent (60%) coarse fragments by volume”

b. Section 79(c)

- i. **Section 79(c)(3)(B):** Added “unless: (i) the on-site soils evaluation report shows that the presence of the horizon is not detrimental to the proper functioning of an onsite sewage system; and (ii) the determination in item (i) is made using the guidelines as set forth in the soil manuals, technical bulletins, and handbooks of the NRCS guidelines and as approved by the department.
- ii. **Section 79(c)(3)(C):** Changed “twenty-seven percent” to “twenty percent” so it now reads, “less than twenty percent (20%) clay by volume and greater than thirty-five percent (35%) coarse fragments by volume”
- iii. **Section 79(c)(3)(D):** Changed “twenty-seven percent” to “twenty percent” and “fifty percent” to “sixty percent” so it now reads, “greater than or equal to twenty percent (20%) clay by volume and greater than sixty percent (60%) coarse fragments by volume”

c. Section 79(d)

- i. **Section 79(d)(1):** added “and” to the list

- ii. **Section 79(d)(2)(B):** Added “unless: (i) the on-site soils evaluation report shows that the presence of the horizon is not detrimental to the proper functioning of an onsite sewage system; and (ii) the determination in item (i) is made using the guidelines as set forth in the soil manuals, technical bulletins, and handbooks of the NRCS guidelines and as approved by the department.
- iii. **Section 79(d)(2)(C):** Changed “twenty-seven percent” to “twenty percent” so it now reads, “less than twenty percent (20%) clay by volume and greater than thirty-five percent (35%) coarse fragments by volume”
- iv. **Section 79(d)(2)(D):** Changed “twenty-seven percent” to “twenty percent” and “fifty percent” to “sixty percent” so it now reads, “greater than or equal to twenty percent (20%) clay by volume and greater than sixty percent (60%) coarse fragments by volume”

29. Section 80

a. Section 80(b)

- i. **Section 80(b)(5):** Added “unless: (A) the on-site soils evaluation report shows that the presence of the horizon is not detrimental to the proper functioning of an onsite sewage system; and (B) the determination in clause (A) is made using the guidelines as set forth in the soil manuals, technical bulletins, and handbooks of the NRCS guidelines and as approved by the department.
- ii. **Section 80(b)(6)(A):** Changed “twenty-seven percent” to “twenty percent” so it now reads, “less than twenty percent (20%) clay by volume and greater than thirty-five percent (35%) coarse fragments by volume”
- iii. **Section 80(b)(6)(B):** Changed “twenty-seven percent” to “twenty percent” and “fifty percent” to “sixty percent” so it now reads, “greater than or equal to twenty percent (20%) clay by volume and greater than sixty percent (60%) coarse fragments by volume”
- iv. **Section 80(b)(7), Table VI:**
 - 1. Changed the listing of “prismatic” in the column headings in this table.
 - a. Based on public hearing comment that this is the preferable listing of prismatic.
 - 2. Deleted “coarse or” from the heading of column 7

- a. Technical correction on soils descriptions.
- b. **Section 80(c)(5):** Added “, unless the compaction is broken up by a method approved by the department”
 - i. Based on public hearing comment and an acceptable wording addition.

30. Section 81, Table VII

- a. Changed “27 % clay” to “20 % clay” and “50% coarse fragments” to “60% coarse fragments”.
 - i. Based on public hearing comment that these are changes to NRCS soil classification breaks in percentages.
- b. Added a period at the end of the sentence in Footnote 1.
- c. Added footnote 3 to reference the sections where requirements are located in the rule.
- d. Added decimal point to “075” so it reads “0.75”

31. Section 82(e): Added “as follows”

32. Section 83(i): Added wording to reflect that the distribution box must be at least five feet from the proximal end of any soil absorption field and had to be connected by unperforated pipe. The previous wording was only that the distribution box had to be connected to each trench by five feet of unperforated pipe.

- a. Based on public hearing comment that the meaning should be clarified in this manner.

33. Section 84, Table X

- a. Added “(per 100 feet of pipe)” after the title of the table
 - i. The values listed are for each 100 feet of pipe. This must be specified or the table could be misused, causing significant errors.
- b. Added “Flow velocity must be at least 2 fps” and changed “Flow” to lower case so it now reads, “Flow velocity must be at least 2 fps; flow velocities above 5 fps should be avoided”
 - i. This table replaces its predecessor to include the use of flow velocities in pipe selection. The selection of a pipe with flow velocities not less than 2 feet per second is necessary for proper functionality.

34. **Section 87(a)(3)(A):** removed picture file of equation and placed equation in text format because the text version was easier to read than the picture file. The equation remains the same.

35. **Section 90**

- a. **Section 90(h)(4), Table XVII:** Added “one-quarter” and parentheses around “1/4” so it now reads, “Pressure distribution lateral diameters for one-quarter (1/4) in. holes spaced at three (3) ft. on centers.”
- b. **Section 90(j):** Added “as follows”

36. **Section 92(b):** Added “as follows”

37. **Section 93**

- a. **Section 93(b):** replaced “as follows” with “the following apply”
- b. **Section 93(c):** replaced “as follows” with “the following apply”

38. **Section 94(a)(4):** Added “The following requirements apply:”

39. **Section 98(a)(4)**

- a. Subsection (4) and (5) were combined and clause (B) added to allow the use of flowable fill and the subdivision reformatted accordingly. It now reads, “The tanks must either be: (A) removed or the lids crushed into the tanks and the holes or tanks backfilled with debris-free sand or other granular material, concrete, or soil material that is compacted to prevent settling. (If a sand mound is being abandoned, sand, aggregate and soil cover from the sand mound may be used for filling the tank or tanks); or (B) filled with flowable fill.”
 - i. Based on public hearing comment that this should be added.
- b. “onsite sewage system” changed to “sand mound”
 - i. Provides clarity as to which type of onsite sewage system is referred to here (not all onsite sewage systems meet this context).

40. **Section 99**

- a. **Section 99(b):**
 - i. Added “20” to the NSF/ANSI standard so it now reads “NSF/ANSI Standard 40-2010” rather than “NSF/ANSI Standard 40-10”

- ii. Added “20” to the NSF/ANSI standard so it now reads “NSF/ANSI Standard 46-2010a” rather than “NSF/ANSI Standard 46-10a”
- iii. Replaced “the” with “each”
- iv. Added “s” to end of “standard”

b. **Section 99(c):**

- i. Removed the hyphens between the letter and the number in the ASTM standards.
- ii. Added space between “F” and “480-12”
- iii. Changed the ASTM standard from ASTM D 2665-11 to D 2665-12.
- iv. Added “Reapproved” to ASTM Standard references D 1527-99, D 2680-01 and D 2282-99
- v. Added “Reapproved 2009” to ASTM Standard references D 4491-99a and D 6241-04
- vi. Replaced “the” with “each”

c. **Section 99(e):** Added “September 2003” to NRCS Standard reference 606

d. **Section 99(f):** added “Section 904, Aggregates” to INDOT Standard Specifications